

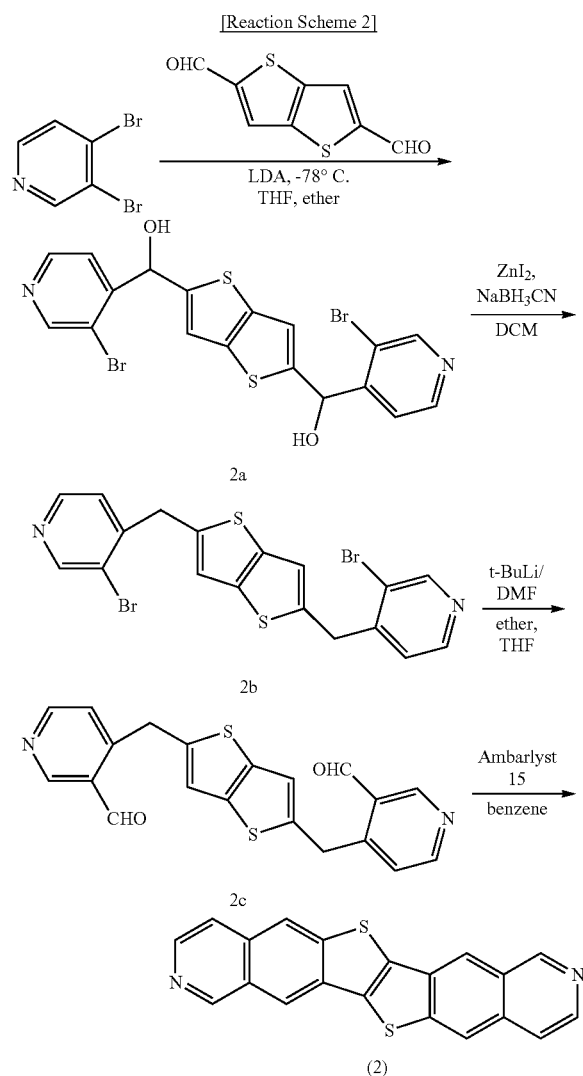
is precipitated. The temperature is cooled down to room temperature (24° C.), the Amberlyst 15 is precipitated and then, filtered after taking off a floater therefrom, obtained a desired compound 1 as a yellow solid (a yield of 60%).

[0104] The MALDI-MS analysis result of the compound 1 is provided in FIG. 3.

[0105] Maldi-MS $m/z=342.76$ (M+1).

Example 2: Synthesis of Compound (2)

[0106]



(1) Synthesis of Thieno[3,2,b]thiophene-2,5-diylbis((3-bromopyridin-3-yl)methanol) (Compound 2a)

[0107] Thienothiophene dicarbaldehyde (5 g, 25.48 mmol) is dissolved in 250 mL of dry diethylether and dry tetrahydrofuran (THF) and then, cooled down to -78° C. Then, 42.12 mL of diisopropylamine (a 2.0 M hexane solution) is slowly added thereto in a dropwise fashion, and 2,3-dibromopyridine (13.3 g, 56.16 mmol) is added thereto. The mixture is slowly heated and stirred at room tempera-

ture (24° C.) for 12 hours. Subsequently, 100 mL of an ammonium chloride-saturated solution is added thereto, and an extract is obtained by using chloroform and several times washed with water. The obtained extract is dried with magnesium sulfate and then, filtered, and the chloroform solvent is removed to obtain a compound 2a. (a yield of 75%)

(2) Synthesis of 2,5-bis(3-bromopyridin-3-yl)methylthieno[3,2,b]thiophene (Compound 2b)

[0108] The compound 2a (9.8 g, 19.13 mmol) is dissolved in 300 mL of dichloromethane, and ZnI_2 (19.54 g, 61.22 mmol) and NaCNBH_3 (16.83 g, 267.8 mmol) are slowly added thereto. The mixture is stirred at room temperature (24° C.) for 24 hours and passed through a Celite pad. The filtered solution is respectively washed with an ammonium chloride-saturated solution and water, dried with MgSO_4 , and concentrated under a reduced pressure, obtaining yellow oil. This obtained material is purified through silica chromatography, obtaining a desired compound 2b. (a yield of 80%)

(3) Synthesis of 4,4'-(thieno[3,2-b]thiophene-2,5-diylbis(methylene))dinicotinaldehyde (Compound 2c)

[0109] A tetrahydrofuran solution (100 mL) in which the compound 2b (5.7 g, 11.13 mmol) is dissolved is slowly added in a dropwise fashion to a diethyl ether (200 mL) solution in which t-butyl lithium (30.11 mmol) is dissolved and cooled down to -78° C. The mixture is stirred at -78° C. for about 30 minutes, dimethylformaldehyde (2.44 g) is added thereto, and the obtained mixture is stirred again for about 2 hours. When the reaction is completed by pouring water thereinto, 200 mL of ethyl acetate is added thereto, the mixture is washed with water and brine, and an organic layer produced therein is dried with MgSO_4 , and concentrated under a reduced pressure, obtaining colorless oil. This obtained material is purified through silica chromatography, obtaining a desired compound 2c (a yield of 50%).

(4) Synthesis of Compound (2)

[0110] The compound 2c (2.1 g) is dissolved in 30 mL of benzene, Amberlyst 15 (0.5 g) is added thereto, and water is removed therefrom by using a Dean-Stark trap while the mixture is stirred and refluxed. After 24 hours or so, a yellow solid is precipitated. The temperature is cooled down to room temperature (24° C.), the Amberlyst 15 is precipitated and then, filtered after taking off a floater therefrom, obtaining a desired compound 2 as a yellow solid (a yield of 60%).

[0111] The thermogravimetric analysis result (TGA) of the compound 1 is provided in FIG. 4. As shown in FIG. 4, a temperature when 5 wt % of the compound 1 is decreased is 383.02° C. Accordingly, the compound 1 turns out to have improved thermal stability.

Example 3: Manufacture of Organic Thin Film Transistor (OTFT)

[0112] First, chromium used as a gate electrode is deposited to be 1000 Å thick through sputtering on a cleaned glass substrate, and SiO_2 is deposited to form a 3000 Å-thick insulation layer thereon in a CVD method. Then, Au is deposited thereon to be 700 Å thick through sputtering, forming a source electrode and a drain electrode. The glass